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CLAIMSStatus of the Claims

Claims 1-70 were filed with the original application. Claims 2-7, 10, 13, 16, 19, 22, 24, 27, and 37-70 were previously canceled without prejudice or disclaimer of the subject matter therein. Claims 8-9, 11-12, 14-15, 17, 20-21, 23, 28-30 and 36 are hereby cancelled without prejudice or disclaimer of the subject matter therein. Claims 1, 18, 25-26, 31-35 are currently undergoing prosecution. Claims 1, 18, 25, and 31 have been amended without prejudice or disclaimer of the originally-filed subject matter.

In The Claims

1. (Currently Amended): A high throughput assay for detecting GST alleles present in a patient comprising the steps of:

(a) obtaining a biological sample from the patient;

(b) isolating genomic DNA from the sample;

(c) performing PCR amplification of a portion of the DNA to detect GSTM1 alleles;

(d) performing PCR amplification of a portion of the DNA to detect GSTM3 and GSTT1 alleles;

(e) performing PCR amplification of a portion of the DNA to detect GSTP1 polymorphisms; and

(f) detecting GSTM1, GSTM3, GSTT1, and GSTP1 polymorphic alleles in the DNA obtained from the PCR amplification steps, wherein said GSTM1 is GSM1*0, GSTM1*A, or GSTM1*B, said GSTM3 is GSTM3*A or GSTM3*B, said GSTT1 is

GSTT1*0 or GSTT1*1, and said GSTP1 is GSTP1*A, GSTP1*B, GSTP1*C or GSTP1*D

- 2-7. (Previously Cancelled)
- 8-9. (Currently Cancelled)
- 10. (Previously Cancelled)
- 11-12. (Currently Cancelled)
- 13. (Previously Cancelled)
- 14-15. (Currently Cancelled)
- 16. (Previously Cancelled)
- 17. (Previously Cancelled)
- 18. (Currently Amended): The method of claim 17, wherein the individual GSTP1-specific primer sequences are selected from SEQ ID NO: 13, SEQ ID NO: 14, SEQ ID NO: 15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22 and SEQ ID NO: 23.
- 19. (Previously Cancelled)
- 20-21. (Currently Cancelled)
- 22. (Previously Cancelled)

23. (Currently Cancelled)
24. (Previously Cancelled)
25. (Currently Amended): The method of claim 20~~1~~, wherein the step of detecting GSTM1, GSTM3, GSTT1, and GSTP1 polymorphic alleles in the DNA obtained from the PCR amplification steps is followed by performing a long range PCR assay of a portion of the DNA to distinguish GSTM1*A/A or GSTM1*B/B homozygotes from GSTM1*A/null and GSTM1 *B/null heterozygotes.
26. (Original): The method of claim 25, wherein the step of performing a long range PCR assay of a portion of the DNA is conducted using GSTM1*O-specific primer sequences.
27. (Previously Cancelled)
- 28-30. (Currently Cancelled)
31. (Currently Amended): The method of claim 28~~1~~, wherein the step of performing a long range PCR assay of a portion of the DNA to determine the gene dosage of GSTT1 is conducted using GSTT1*O-specific primer sequences and GSTT1 /GSTT2-non-specific primer sequences.
32. (Original): The method of claim 31, wherein the GSTT*O-specific primer sequences are SEQ ID NO: 33 and SEQ ID NO: 34 and the GSTT1/GSTT2-non-specific primer sequences are SEQ ID NO: 31 and SEQ ID NO: 32.
33. (Original): The method of claim 1, wherein the steps of performing PCR amplification of a portion of the DNA are followed by the steps of identifying portions of the DNA

which failed PCR amplification and performing single nucleotide extension verification assays on the portions of the DNA which failed PCR amplification.

34. (Original): The method of claim 1, wherein the step of performing PCR amplification of a portion of the DNA to detect GSTM1 alleles includes using primers having the sequences of SEQ ID NO: 1, SEQ ID NO: 3 and SEQ ID NO: 4; the step of performing PCR amplification of a portion of the DNA to detect GSTM3 and GSTT1 alleles includes using primers having the sequences of SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 24 and SEQ ID NO: 25; and performing PCR amplification of a portion of the DNA to detect GSTP1 polymorphisms includes using primers having the sequences of SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 19, SEQ ID NO: 21 and SEQ ID NO: 23.
35. (Original): The method of claim 34 wherein the steps of performing PCR amplification of a portion of the DNA are followed by the steps of identifying portions of the DNA which failed PCR amplification and performing single nucleotide extension verification assays on the portions of the DNA which failed PCR amplification.
36. (Currently Cancelled).
- 37-70. (Previously Cancelled)